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Power Paper Gets Semi-Passive

At the RFID Journal Live! Conference in Chicago, Power Paper, a developer of thin-film battery, announced plans to deliver its first EPC-compliant semi-passive tags next month. The company believes there will be a significant market for its hybrid offering alongside passive tags.



Shalom
Daskal

“Passive tags will dominate the lower-price market, but where the type of goods adversely effect the passive tag’s capabilities, there will be a need for battery-assisted tags,” says Shalom Daskal, the CEO of Power Paper, which is based in Tel Aviv, Israel. Those types of goods would likely contain metal or water, both of which disrupt the RF signals.

The new tags combine Power Paper’s printed batteries with chips from EM Micro to create a flexible and cheap RFID smart label.

Daskal admits that the battery-assisted tags will be more expensive than the passive tags—roughly 20% to 25% more than their passive counterparts—but claims that such tags are needed to ensure the reliability required by Wal-Mart and other companies set to deploy and use EPC networks demand.

Driving the deployment of battery-assisted tags, says Shalom companies preparing for EPC network deployments have become increasingly concerned that passive-only tags will not be able to deliver the 100 percent read rates that they want. Having an EPC-compliant battery-powered tag will be key.

“We will market and target our battery-assisted tags to be used side by side with passive tags,” says Daskal.

Unlike passive RFID smart labels, which draw power from the radio waves transmitted by an RFID reader, and active smart lables, which are powered entirely by battery, semi-active

labels use a battery to run the microchip's circuitry but not to communicate with the reader. By doing so, the chip is able to reflect more of the radio wave transmitted by the reader, thereby overcoming some of the interference that passive tags face.

Power Paper says that's its semi-passive EPC tag will be as compliant as possible to the EPC Class 1 Gen 2 standard, which will still have yet to be finalized. "The chip is already pretty well built and we know a lot about the protocol," said Shalom.

Power Paper says its smart label will be ready to enter production within four to eight weeks of the final standard.

The company is also confident that the emerging standard will ensure that its battery-assisted EPC tags will be able to be read by the same readers. "Gen 2 has two potential air interfaces under consideration that will both support our tags alongside passive tags and be able to read both," says Daskal.

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